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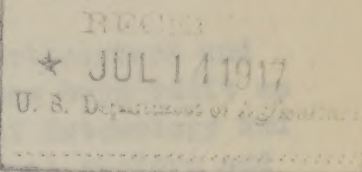
E 109. MONTHLY LETTER OF THE BUREAU OF ENTOMOLOGY
UNITED STATES DEPARTMENT OF AGRICULTURE

Number 38.

June, 1917.

THE MONTHLY LETTER IS DESIGNED FOR THE INFORMATION OF THE WORKERS OF THE BUREAU OF ENTOMOLOGY AND TO PROMOTE THE ACTIVITIES OF THE BUREAU AND THE DEPARTMENT THROUGH THE COORDINATION OF ITS WIDELY DISTRIBUTED UNITS.

UNITED STATES DEPARTMENT OF AGRICULTURE
TO PROVIDE RED CROSS AMBULANCE FOR USE
IN EUROPE.



Subscriptions are being received for a fund of \$1450 to be used in donating a fully equipped Red Cross ambulance for use in Europe. This gives a very definite means for aiding in the important work of the Red Cross. The ambulance will be known officially as the United States Department of Agriculture Ambulance. Subscriptions from Bureau employees should be sent to Mrs. H. S. Bishop of the Bureau.

GEORGE WASHINGTON UNIVERSITY HONORS W. DWIGHT PIERCE.

On June 6 W. Dwight Pierce received the degree of Doctor of Philosophy from the George Washington University, Washington, D. C. The title of his thesis was a "Comparative Morphology of the Insect Order Strepsiptera". The minors were "The Relation of Insects to Disease", and "The Relation of Climate to Insect Life and Activity."

INCREASES IN COMPENSATION PROVIDED BY
CONGRESS.

The Act making appropriations for the Department for the fiscal year 1918 contains a provision that during that year all employees of the Department, on both statutory and lump fund rolls, shall receive additional compensation. This is at the rate of 10 per cent per annum to employees receiving salaries less than twelve hundred dollars, and at the rate of 5 per cent to employees receiving salaries of not more than eighteen hundred dollars per annum, and not less than twelve hundred per annum. These provisions do not apply to persons employed under temporary appointments, nor to those who receive part of their salaries from outside sources under cooperative arrangements with the Department, nor to employees whose duties require only a portion of their time. Arrangements have been made to place the provision made by Congress in operation July 1.

SPECIAL NOTICE TO FIELD WORKERS
OF THE BUREAU.

Specimens are sent by the field workers frequently without labels and without indication as to whether they are to be returned. Then afterwards comes a request for the specimens from the men who sent them. In the meantime they have been distributed and it is almost impossible to find them. This is entirely unnecessary and field workers in the future are urgently requested to label and number all specimens sent in and to state definitely whether they wish them returned.

THE COLLECTION OF HEMIPTERA IN THE U. S. NATIONAL MUSEUM.

It should be of interest to all American workers in Hemiptera as well as to workers in other orders to know something in regard to, what is without doubt, the largest collection of Hemiptera in North America. Since the death of the late Otto Heidemann, who was for ten years Custodian of Hemiptera in the U. S. National Museum, the entire collection has been rearranged.

All specimens are now kept in cork-lined drawers with glass covers, and these in steel cabinets.

The collection of Hemiptera in the Museum includes all of Heteroptera and Homoptera exclusive of Aphididae, Aleurodidae, and Coccidae. It has been built up of material sent in from numerous economic workers of the Bureau of Entomology and State departments, by generous donations of specimens from individual workers and students, and also by trades and purchases. The Fitch, Ashmead, Coquillett, and Uhler collections have been notable acquisitions, and it is hoped that in the future the generous spirit which has been the means of building up the best collection of Hemiptera in North America will continue to prompt entomologists to donate specimens freely so that in a short time we may be proud to be able to claim the best in the world.

At the present time there are approximately 150,000 specimens in the collection. Of this 60,000 have been determined. The Nearctic region is represented by 107,000 specimens; the Neotropical by 20,000; the Palaearctic by 10,000; the Ethiopian by 7,000; the Oriental by 3,000; and the Australian by 3,000. The average number of duplicates in a species is 10. There are 600 series of types, cotypes, or paratypes, exclusive of many in the Uhler collection which have never been designated.

Besides the above, the C. F. Baker collection with approximately 30,000 specimens is on deposit and available for study.

During the past six months over 60 series of specimens, many including 25 or more species, from collectors and economic workers, have been determined. This work will be continued zealously and determinations made and returned as quickly as is consistent with accuracy.

(Signed) Edmund H. Gibson

ATTENTION.

CHANGES IN THE FISCAL REGULATIONS

The attention of employees in the field is called to Secretary's Memorandum No. 207, dated June 9, 1917, wherein the Fiscal Regulations are modified as follows:

Paragraph 45 - This paragraph which originally prohibited the use by employees on a per diem allowance, of identification cards in sending telegrams to reserve hotel accommodations has now been made to prohibit by the addition of the words "or Pullman" the use of such cards for securing Pullman accommodations.

Paragraph 75 - Per diem allowance will hereafter include also telegrams reserving Pullman accommodations. Note in the enumeration of the items included in per diem the additional words "or Pullman." This paragraph also provides that no reimbursement will be made for tips or fees paid out in anti-tipping states, viz: Arkansas, Iowa, South Carolina, Mississippi, and Tennessee, and "Payment of sleeping car or parlor car porters' tips while enroute to a point in an anti-tipping State will not be allowed."

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Besides the above, the C. F. Baker collection with approximately 30,000 specimens is on deposit and available for study.

During the past six months over 60 series of specimens, many including 25 or more species, from collectors and economic workers, have been determined. This work will be continued seasonally and determinations made and returned as quickly as is consistent with accuracy.

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Paragraph 78 (h) - To the enumeration of items included in the \$5.00 allowance for subsistence is added words in parenthesis, which eliminates telegrams reserving Pullman accommodations.

MEMORANDUM NO. 209.

Amendment to the Fiscal Regulations.

Appendix G of the Fiscal Regulations is hereby amended so as to read as follows:

"Payment of tips, fees, or gratuities to any steward, waiter, porter, or other employee at any hotel, restaurant, cafe, eating house, or any porter or other employee of any sleeping-car company, corporation, carrier is prohibited by law in the States of Arkansas and Iowa.

"Payment of tips, fees, or gratuities to any person in the employ of any hotel, restaurant, cafe, dining car, railroad company, or sleeping-car company is prohibited by law in the States of South Carolina, Mississippi and Tennessee.

"Payment of sleeping-car or parlor car porters' tips while enroute to a point in an anti-tipping State will not be allowed."

D. A. Houston

Secretary.

INSECT MATERIAL WANTED.

Corydalis adults. Dr. A. G. Boving and F. C. Craighead are very anxious to secure living adults of *Corydalis* for anatomical purposes. It will be appreciated if any one who finds adults of the "Dobson fly" will send them alive (in small tin can) to either Dr. Boving at U. S. National Museum or Mr. Craighead at East Falls Church, Va.

MAPS OF THE UNITED STATES.

The Division of Publications advises, regarding the State maps which were advertised in the May number of the Monthly Letter, that owing to certain changes in the plates, delivery of this stock will not be possible for at least 60 days.

The requests which have been received will be held and the maps furnished at the earliest possible date.

SEND YOUR CONTRIBUTION FOR THE UNITED STATES DEPARTMENT OF AGRICULTURE
AMBULANCE TO MRS. H. S. BISHOP, BUREAU OF ENTOMOLOGY.

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LIBRARY

Miss Mabel Colcord, In Charge.

NEW BOOKS

Miss Ina L. Hawes, S. B. Simmons College #1917, has been appointed assistant in the Bureau library.

NEW BOOKS:

The Bureau library has just acquired for reference use the Handy volume issue of the Encyclopaedia Britannica, ed. 11- the latest edition- in 29 octavo volumes. It is the large Britannica reprinted on cheaper paper and in smaller type; it is hoped it will prove true to its name and be "handy".

Chapin, C. V. How to avoid infection. Cambridge, Mass., 1917. 88p. 12°
(Harvard health talks)

How to fight garden pests. Harrisburg, Pa. The Countryside Press, 1915.
72p.

Illinois bee keepers association. 16th annual report. Springfield, 1917.
170p.

Munro, R. W. and Brown, L. C. Practical guide to coco-nut planting.
London, 1916. 186p.

Pests and diseases, p. 113-155.

U. S. Dept. of Commerce. Statistical abstract of the United States. 1916.
Washington, Government Printing Office, 1917. 873p.

Weed, C. M. Butterflies worth knowing. Garden City, N. Y., 1917. 286p.
illus.

BEE CULTURE.

E. F. Phillips, Apiculturist In Charge.

The first bulletin on honey market news was issued by the Office of Markets and Rural Organization on June 15. These reports will appear semi-monthly during the shipping season. There is apparently considerable speculating with the 1917 honey crop and it is hoped that an early result of this service will be a curtailment of this practice. The object is to give both producers and buyers information concerning actual sales on which they can rely.

Chas. L. Sams, Mars Hill, N. C., has been appointed to continue the extension work in beekeeping in North Carolina, which was temporarily discontinued in April. His headquarters will be in the Entomologist's office Raleigh.

Kennith Hawkins returned June 17 from a trip in Virginia where a series of meetings of beekeepers was held.

E. L. Sechrist left on June 7 for a trip through Montana to attend a series of twelve meetings of beekeepers arranged by the Entomologist and the Extension Director.

The first series of circulars issued to stimulate an increase in the honey crop consisted of about 150,000 in all. These have resulted in the heaviest incoming mail ever received in this office, the mail received during June far exceeding any previous year. Envelopes are now being addressed for a second series of circulars which should begin about July 15th.

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NEW BOOKS

LIBRARY

A series of meetings of beekeepers will be held early in July at points in Vermont under the supervision of Dr. Burton N. Gates, now a Collaborator of the Bureau. A similar series of meetings is being arranged in western Maryland which will be attended by Kenneth Hawkins and G. H. Cale of the Maryland State College of Agriculture, now Collaborator of the Bureau.

DECIDUOUS FRUIT INSECT INVESTIGATIONS.

A. L. Quaintance, Entomologist In Charge.

Dr. A. L. Quaintance and E. H. Siegler visited New Haven, Conn. June 6 and conferred with Dr. W. E. Britton, relative to cooperative work to be undertaken by the Bureau of Entomology and Dr. Britton's office on deciduous fruit insects, especially the apple-tree tent caterpillar. A laboratory has been established at Wallingford, Conn., which will be headquarters for the investigations. E. H. Siegler will be in charge of the station and R. A. Cushman will have charge of the investigation of parasites.

B. A. Porter, a graduate of the Massachusetts Agricultural College, has been appointed to assist R. A. Cushman in the study of hymenopterous parasites of deciduous fruit insects and will be stationed at Wallingford, Conn.

FEDERAL HORTICULTURAL BOARD.

C. L. Marlatt, Chairman.

In the working relation to the pink bollworm in Mexico, it is developed that there is considerable risk of the entry of cotton seed with such cottonseed products as cake and meal. A hearing was therefore held on June 4, 1917, to consider restricting the admission of cottonseed products into the United States. The regulations proposed are to include prohibition of entry into the United States any of these products milled near the Texas-Mexican border. This provision has particular relation to a small cottonseed mill established at Piedras Negras and to which large quantities of seed have been brought involving very serious risk inasmuch as the seed is heavily infested with pink bollworm.

Later it developed that to safeguard the situation fully and to make it impossible for this mill to continue operations, it would be necessary to restrict the movement, from Mexico, of cottonseed oil also. A hearing was conducted to consider this phase of the subject on June 19.

As a result of these two hearings orders have been issued, restricting the admission of cottonseed oil, cake, meal, and all other cottonseed products from Mexico, and all of these products, except oil, from all other foreign countries; and the necessary regulations will be promulgated shortly.

In addition to the restrictions on the cottonseed products, regulations have been drafted governing the admission of railway cars and all freight, baggage, etc., from Mexico into the United States to prevent the carriage of the pink bollworm in cars or freight and baggage. These regulations will involve inspection and certification of all cars, freight, etc., and a disinfection of all cars and freight where any risk of carriage of cotton seed or of living pink boll worms or moths appears.

August Busck has returned from his trip to Mexico announced in the last number of this letter. He made a careful examination of cotton fields on both sides of the Mexican border in the Brownsville-Matamoros region without finding

any evidence of the pink bollworm. Neither was any evidence of infestation found in the district opposite Eagle Pass, Tex., but two Mexican plantations near the United States were found on which considerable areas of cotton had been planted with seeds imported from the Laguna district. There is every reason to anticipate, therefore, that in these fields the pink bollworm will develop this year. A very strict watch must be maintained, and whatever remedial steps possible will be undertaken in cooperation with the Mexican authorities.

J. A. Dew made a visit to Washington, and more recently E. R. Sasscer has proceeded to the Texas border to advise the inspectors of the Board as to methods of fumigation of cars and freight.

E. R. Sasscer has recently completed a new series of tests with baled Egyptian cotton to add to the data already obtained as to the efficiency of fumigation methods. As a result of these experiments, the Board will recommend that the period of fumigation of imported cotton be extended to two hours instead of one hour and forty-five minutes. With this fumigation period it is believed it will be entirely safe to eliminate the screening requirement hitherto made of all mills using imported cotton and of all storage places for such cotton.

FOREST ENTOMOLOGY.

A. D. Hopkins, Entomologist In Charge.

After spending a week at Washington Dr. Hopkins returned to Kanawha Station, W. Va., Field Station on June 6, to continue his studies on the relation of climate to the periodical phenomena of insects and to entomological problems; insects affecting shade trees and hardy shrubs; hickory insects, and insects injurious to forest products.

Dr. Boving and F. C. Craighead left on June 20 for a field trip to Harrisburg, Pa., and vicinity, where they will make observations on insects injurious to forest trees, especially Cerambycid and coleopterous larvae. A. B. Champlain expects to join them on the 25th.

S. A. Rohwer will go to Philadelphia on the 25th to study the types of Cresson's species of Lissenotini and certain other parasitic hymenoptera and also to examine some of Norton's types of sawflies.

W. S. Fisher left the early part of June for a field trip to Harrisburg, Pa., and vicinity, to make further observations and studies of the hickory barkbeetle.

SOUTHERN FIELD CROP INSECT INVESTIGATIONS

W. D. Hunter, Entomologist In Charge.

The following appointments of temporary field assistants have been made effective on July 1.

Tobacco Insect Investigations:-

Dwight M. DeLong	S. F. Grubbs
L. S. Hale	Scott C. Lyon
Joe Milam	M. V. Moffitt
C. B. Nickels	D. M. Rogers
O. M. Shelby	W. B. Weakley

Cotton Insect Investigations:-

R. H. Bush	M. G. Dyess
C. F. LaGrone	C. W. Luster
G. H. Martin	C. H. Reeves

M. C. Rogers
Marion Speed
J. C. Woodward

H. P. Smith
M. C. Taylor
F. G. Wrenn

J. D. Mitchell has begun an investigation of two rice insects which have caused very large losses in Matagorda County, Texas. Both species are new as to enemies of rice. Together they have destroyed the greater part of forty thousand acres of rice, and threaten to spread extensively during the coming season.

TROPICAL AND SUBTROPICAL FRUIT INSECT INVESTIGATIONS
C. L. Marlatt, Entomologist In Charge.

A. D. Borden who has been cooperating with E. R. Sasser in the greenhouse project of this section has been detailed to California to aid in the immediate future in the educational and extension work which it is hoped to conduct in cooperation with the States Relation Service with respect to citrus fumigation and other insect control methods. He will later take up the study of date insects, continuing the work begun several years ago by J. D. Neuls. Mr. Borden's greenhouse work in cooperation with Ms. Sasser has been of a very important and useful character and has already resulted in a bulletin which doubtless will be of great service to greenhouse men. A number of minor papers will fairly well complete his work and leave him free to take this new detail. The greenhouse project will be continued by Mr. Sasser, and a new assistant will be shortly secured to aid in this work.

TRUCK CROP INSECT INVESTIGATIONS
F. H. Chittenden, Entomologist In Charge.

Louis A. Sterns, graduate of Ohio Wesleyan University and Ohio State University, has been appointed for temporary work on insects as carriers of disease in cooperation with the H. J. Heinz Company and the Bureau of Plant Industry at Madison, Wis.

Kirby L. Cokerham, a graduate of the Mississippi Agricultural College and Ohio State University, has been appointed temporary assistant at Muscatine, Iowa, to collaborate with Charles E. Smith, Scientific Assistant, to work on insects as carriers of truck crop diseases.

Marion S. Smith, graduate of Clemson Agricultural College of South Carolina and Ohio State University, has been appointed field assistant in cooperation with H. K. Laramore, at Plymouth, Ind., for investigation of insects as carriers of cucurbit diseases.

Harold L. Weatherby has been appointed field assistant under the direction of H. O. Marsh, Rocky Ford, Colo., to assist in insects injurious to sugar beets and truck crops.

Clarence Joseph Manter will assist Roy E. Campbell in work on sugar beet insects and truck crop pests in the vicinity of Pasadena, Calif.

Kennith W. Babcock has been assigned for temporary work at College Park, Md., on general truck crop insect investigations.

Report of the United States Department of Agriculture, Bureau of Entomology and Plant Quarantine, on the results of the investigation of the pest of the cotton plant, the cotton bollworm, in the State of Texas, during the year 1911.

REPORT OF THE UNITED STATES DEPARTMENT OF AGRICULTURE, BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE, ON THE RESULTS OF THE INVESTIGATION OF THE PEST OF THE COTTON PLANT, THE COTTON BOLLWORM, IN THE STATE OF TEXAS, DURING THE YEAR 1911.

The cotton bollworm, *Heliothis virescens* (L.), is one of the most important pests of the cotton plant in the State of Texas. It is a species of the genus *Heliothis*, which is characterized by its green color and its habit of feeding on the leaves and bolls of the cotton plant. The pest is found in all parts of the State, and its damage is estimated to be worth millions of dollars annually. The investigation of the pest was conducted by the Bureau of Entomology and Plant Quarantine, under the direction of the Chief of Bureau, Mr. H. W. Henshaw. The results of the investigation are reported in this report.

1. Description of the pest, its habits, and its distribution in the State of Texas.

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CEREAL AND FORAGE INSECT INVESTIGATIONS
W. R. Walton, Entomologist In Charge.

A new field station has been established at Carlisle, Pa., W. R. McConnell is in charge of the station and is assisted by P. R. Myers. The street address of the new laboratory is 227 Moreland Avenue. The field station at Hagerstown will be continued as before, under the direction of J. A. Hyslop. The major project at the new station will be the investigation of the parasites of the Hessian fly, upon which Mr. McConnell has been working for several years past.

The entomological field station formally located at Brownsville, Texas, has been transferred to San Antonio, Texas. R. A. Vickery will be in charge of this station and T. S. Wilson and Felix Garcia have also been transferred from Brownsville to San Antonio in order to assist him.

There has been a very brisk demand for copies of the white-grub poster recently issued from this office and the supply is practically exhausted at the present time. A poster dealing with the chinch-bug situation is in press and should be ready for distribution within the next ten days. Arrangements have been made to distribute this widely throughout the infested region by means of cooperation with the State Relations Service.

A post card summarizing the methods of control for the Hessian fly is being published and will be given very thorough distribution throughout the eastern half of Kansas and surrounding States, wherever danger from this pest threatens. The distribution of this will also be accomplished through cooperation with the States Relations Service.

C. W. Creel and E. J. Taylor are in western Montana assisting the State authorities in the control of a very serious grasshopper outbreak which has occurred in the neighborhood of the Flathead Indian Reservation. Good progress in the control of this outbreak has been reported by Mr. Creel.

Charles H. Gable has been appointed for a period of three months to assist T. D. Urbahns on the grasshopper control investigations, in California, a widespread outbreak of grasshoppers having occurred in this State during the past month.

Dr. J. M. Aldrich is at present on an extended trip in connection with the economic species of *Oscinidae*. He will return to his field station at West La Fayette, Ind., shortly after the first of July.

NOTES FROM THE WELLINGTON (KANS.) FIELD STATION.

June 1917.

We were expecting a large flight of *Lachnosterna* adults, but have been disappointed. Only a few came to the lights.

We would request that field men who are in the vicinity of wheat fields infested with Hessian fly, send us material as frequently as convenient. We would like to have stubble collected once each week from a field and sent to the laboratory.

We would like to have *Eleodes* from any of the western stations. During a recent trip through Nebraska, it was ascertained that larvae of *Eleodes* spp had done a great deal of damage in western Kansas and western Nebraska in the fall of 1916.

At present there is a rather serious infestation of wireworms in Nebraska and northern Kansas.

A new field station has been established at Carlisle, Pa., W. R. McGinnis is in charge of the station and is assisted by P. R. Myers. The street address of the laboratory is 327 Maryland Avenue. The field station at Hagerstown will be continued as before, under the direction of J. A. Hyslop. The major project at the new station will be the investigation of the parasites of the Hessian fly, upon which Mr. McGinnis has been working for several years past.

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A post card summarizing the methods of control for the Hessian fly is being published and will be given very thorough distribution throughout the eastern half of Kansas and surrounding States, wherever danger from this pest threatens. The distribution of this will also be accomplished through cooperation with the State Relations Service.

G. W. Greel and E. J. Taylor are in western Montana assisting the State authorities in the control of a very serious grasshopper outbreak which has occurred in the neighborhood of the Flathead Indian Reservation. Good progress in the control of this outbreak has been reported by Mr. Greel.

Charles H. Gable has been appointed for a period of three months to assist J. D. Urbahn on the grasshopper control investigations in California, a widespread outbreak of grasshoppers having occurred in this State during the past month. Dr. J. M. Aldrich is at present on an extended trip in connection with the economic species of *Oecanthus*. He will return to his field station at West Lafayette, Ind., shortly after the first of July.

NOTES FROM THE WELLINGTON (KANS.) FIELD STATION.

June 1917.

We were expecting a large flight of *Ichneumon* adults, but have been disappointed. Only a few came to the lights.

We would request that field men who are in the vicinity of wheat fields infested with Hessian fly, send us material as frequently as convenient. We would like to have stubble collected once each week from a field and sent to the laboratory.

We would like to have *Eileodes* from any of the western stations. During a recent trip through Nebraska, it was ascertained that larvae of *Eileodes* spp. had done a great deal of damage in western Kansas and western Nebraska in the fall of 1916.

At present there is a rather serious infestation of wireworms in Nebraska and northern Kansas.

The chinch-bug situation in southern Oklahoma is acute. A great deal of damage is being done to corn. Wheat is being harvested and the bugs are, of course, going from wheat to corn. Fortunately northern Oklahoma and southern Kansas are practically free of this pest.

The Hessian fly is not very serious in Kansas except in a few central counties, but is generally distributed over the State, extending to the southern border of the infested area in Oklahoma and to the southeast corner of Nebraska. Some serious damage is being done in Missouri.

A state-wide campaign in Kansas and Oklahoma for cleaning up the Hessian fly has been inaugurated by the State Committee on Insects, for the Council of Defence.

H. J. Hart has made a tour of inspection through northern and central Nebraska on the Hessian fly. He reports the wheat badly winter-killed and practically no infestation.

C. L. Scott is now on a trip of inspection of wheat plats in eastern Oklahoma, northern Arkansas, and eastern Missouri. He will harvest samples of wheat for data on yield.

(Signed) E. O. G. Kelly.

NOTES FROM THE TEMPE (ARIZ.) FIELD STATION.

June 1917.

The unusually cool backward weather which has been quite prominent with us the past three or four months, has finally given way to excessive heat, the maximum temperatures for the past week running from 105 to 113. Along with this warm weather have come some unusual insect activities.

The alfalfa pod gall-maker (*Asphondylia miki*), which has only been scatteringly present during the past few years, is sufficiently abundant this year to do considerable damage through southern Arizona. One often finds a single cluster of alfalfa seed pods in which as high as 90% of them are galled by this insect.

Grasshopper nymphs are just appearing during the past week which is nearly a month later compared to last year. A few isolated outbreaks have been reported, and in these cases, poisoned bran mash will be used for controlling them. It is a notable fact that sections thoroughly treated last year show only a very small number of nymphs present this year.

The false chinch-bug, which was the most conspicuous of our insects last year, since it occupied sidewalks and dwelling places by the millions, has again made its appearance but nearly a month later than last year. How numerous it will become, we are unable to say.

(Signed) V. L. Wildermuth.

— NOTICE —

SEND YOUR CONTRIBUTION FOR THE UNITED STATES DEPARTMENT OF AGRICULTURE
AMBULANCE TO MRS. H. S. BISHOP, BUREAU OF ENTOMOLOGY.

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— N O T I C E —

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